

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
PATENT APPLICATION DECLARATION AND POWER OF ATTORNEY  
(Page 1 of 3)

EACH OF THE APPLICANTS SIGNING BELOW HEREBY DECLARES THAT:

My residence, post office address, and citizenship are as stated next to my name in PART A on page 2 hereof.

I believe that I am an original, first, and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled MANIPULATION OF LIVE CELLS AND INORGANIC OBJECTS WITH OPTICAL MICRO BEAM ARRAYS, the specification of which is attached hereto.

I hereby state that I have reviewed and understood the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of the United States Provisional patent application(s) listed below:

Provisional Patent Application Serial No. 60/222,463 filed on July 26, 2000, for VCSEL, and VCSEL Arrays, for Optical Tweezing of Organic and Inorganic Objects to the selfsame inventors as the present utility patent application.

I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent(s) issued thereon.

See pages 2 and 3 to which this page is attached and of which this page is a part.

PATENT APPLICATION DECLARATION AND POWER OF ATTORNEY  
(Page 2 of 3)

I hereby appoint as my attorney with full power of substitution to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith:

William C. Fuess Registration Number 30,054

whose mailing address for this application is:

William C. Fuess  
FUESS & DAVIDENAS  
Attorneys at Law  
10951 Sorrento Valley Road, Suite II-G  
San Diego, California 92121-1613  
Attention: William C. Fuess

and whose telecommunications numbers are:

Telephone: (858) 452-8293, (858) 452-1478  
Facsimile: (858) 452-6035  
E-Mail: fuess@pacbell.net

All correspondence and telephone calls should be directed to William C. Fuess at the address and telephone number referenced above.

See pages 1 and 3 to which this page is attached and of which this page is a part.

PATENT APPLICATION DECLARATION AND POWER OF ATTORNEY  
(Page 3 of 3)

PART A: Inventors' Information and Signatures

Full Name of First Inventor: Mihrimah Ozkan

Citizenship: \_\_\_\_\_

Post Office Address: c/o Department ECE  
University of California at San Diego  
9500 Gilman Drive  
La Jolla, CA 92093-0407

Residence (if different): \_\_\_\_\_

\_\_\_\_\_

Inventor's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Full Name of Second Inventor: Sadik Esener

Citizenship: U.S.A.

Post Office Address: c/o Department ECE  
University of California at San Diego  
9500 Gilman Drive  
La Jolla, CA 92093-0407

Residence (if different): \_\_\_\_\_

\_\_\_\_\_

Inventor's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Full Name of Third Inventor: Mark Wang

Citizenship: U.S.A.

Post Office Address: c/o Genoptix, Inc.

\_\_\_\_\_

\_\_\_\_\_

Residence (if different): \_\_\_\_\_

\_\_\_\_\_

Inventor's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

See pages 1 and 2 to which this page is attached.

Inventors: Ozkan, et al. \_\_\_\_\_  
Serial or Patent No.: TBD \_\_\_\_\_  
Filed: July 26, 2001 \_\_\_\_\_  
For: MANIPULATION OF LIVE CELLS AND INORGANIC OBJECTS WITH OPTICAL MICRO BEAM ARRAYS \_\_\_\_\_

Docket No. UCSD 2001-014P  
U.C. Case No. UCSD 2001-014 \_\_\_\_\_

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS  
[37 CFR §1.9(f) and §1.27(d)] -- NONPROFIT ORGANIZATION**  
[Page 1 of 2]

I hereby declare that I am empowered to act on behalf of the nonprofit organization identified below in the matter of this utility patent application

NAME OF ORGANIZATION: The Regents of the University of California  
ADDRESS OF ORGANIZATION: 300 Lakeside Drive, 22nd Floor  
Oakland, California 94612-3550

TYPE OF ORGANIZATION:

UNIVERSITY OR OTHER INSTITUTION OF HIGHER EDUCATION  
 TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE [26 U.S.C. §501(a) and §501(c)(3)]

I hereby declare that the nonprofit organization identified above qualifies as a nonprofit organization as defined in 37 CFR §1.9(e) for purposes of paying reduced fees under section 41(a) or (b) of Title 35, United States Code with regard to the invention entitled **MANIPULATION OF LIVE CELLS AND INORGANIC OBJECTS WITH OPTICAL MICRO BEAM ARRAYS** by inventors Mihrimah Ozkan, et al. described in:

the utility patent application filed herewith  
 application serial no. \_\_\_\_\_, filed \_\_\_\_\_  
 Patent no. \_\_\_\_\_, issued \_\_\_\_\_

I hereby declare that rights under contract or law have been conveyed to and remain with the nonprofit organization with regard to the above identified invention.

If the rights held by the nonprofit organization are not exclusive, each individual, concern, or organization having rights to the invention is listed below\* and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR §1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR §1.9(e). \*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities (37 CFR §1.27).

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

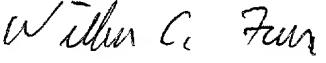
INDIVIDUAL  SMALL BUSINESS CONCERN  NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this utility patent application or any application or any patent descended therefrom, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of, in the case of a subsequent patent application and/or patent, the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate [37 CFR §1.28(b)]

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS  
[37 CFR §1.9(f) and §1.27(d)] -- NONPROFIT ORGANIZATION  
[Page 1 of 2]

I hereby declare that all statements made of my own knowledge are true and that all statements made on information ad belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine of imprisonment, or both, under 18 U.S.C. §1001, and may jeopardize the validity of the application, any patent issuing thereon, or any patent which this verified statement is directed.

NAME OF PERSON SIGNING: William C. Fuess  
RELATIONSHIP TO ORGANIZATION: Patent Attorney representative for the Utility Patent Application  
ADDRESS OF PERSON SIGNING: FUESS & DAVIDENAS  
10951 Sorrento Valley Road II-G  
San Diego, California 92121-1613

SIGNATURE:  DATE July 26, 2001

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
8010  
8011  
8012  
8013  
8014  
8015  
8016  
8017  
8018  
8019  
8020  
8021  
8022  
8023  
8024  
8025  
8026  
8027  
8028  
8029  
8030  
8031  
8032  
8033  
8034  
8035  
8036  
8037  
8038  
8039  
8040  
8041  
8042  
8043  
8044  
8045  
8046  
8047  
8048  
8049  
8050  
8051  
8052  
8053  
8054  
8055  
8056  
8057  
8058  
8059  
8060  
8061  
8062  
8063  
8064  
8065  
8066  
8067  
8068  
8069  
8070  
8071  
8072  
8073  
8074  
8075  
8076  
8077  
8078  
8079  
8080  
8081  
8082  
8083  
8084  
8085  
8086  
8087  
8088  
8089  
8090  
8091  
8092  
8093  
8094  
8095  
8096  
8097  
8098  
8099  
80100  
80101  
80102  
80103  
80104  
80105  
80106  
80107  
80108  
80109  
80110  
80111  
80112  
80113  
80114  
80115  
80116  
80117  
80118  
80119  
80120  
80121  
80122  
80123  
80124  
80125  
80126  
80127  
80128  
80129  
80130  
80131  
80132  
80133  
80134  
80135  
80136  
80137  
80138  
80139  
80140  
80141  
80142  
80143  
80144  
80145  
80146  
80147  
80148  
80149  
80150  
80151  
80152  
80153  
80154  
80155  
80156  
80157  
80158  
80159  
80160  
80161  
80162  
80163  
80164  
80165  
80166  
80167  
80168  
80169  
80170  
80171  
80172  
80173  
80174  
80175  
80176  
80177  
80178  
80179  
80180  
80181  
80182  
80183  
80184  
80185  
80186  
80187  
80188  
80189  
80190  
80191  
80192  
80193  
80194  
80195  
80196  
80197  
80198  
80199  
80200  
80201  
80202  
80203  
80204  
80205  
80206  
80207  
80208  
80209  
80210  
80211  
80212  
80213  
80214  
80215  
80216  
80217  
80218  
80219  
80220  
80221  
80222  
80223  
80224  
80225  
80226  
80227  
80228  
80229  
80230  
80231  
80232  
80233  
80234  
80235  
80236  
80237  
80238  
80239  
80240  
80241  
80242  
80243  
80244  
80245  
80246  
80247  
80248  
80249  
80250  
80251  
80252  
80253  
80254  
80255  
80256  
80257  
80258  
80259  
80260  
80261  
80262  
80263  
80264  
80265  
80266  
80267  
80268  
80269  
80270  
80271  
80272  
80273  
80274  
80275  
80276  
80277  
80278  
80279  
80280  
80281  
80282  
80283  
80284  
80285  
80286  
80287  
80288  
80289  
80290  
80291  
80292  
80293  
80294  
80295  
80296  
80297  
80298  
80299  
80300  
80301  
80302  
80303  
80304  
80305  
80306  
80307  
80308  
80309  
80310  
80311  
80312  
80313  
80314  
80315  
80316  
80317  
80318  
80319  
80320  
80321  
80322  
80323  
80324  
80325  
80326  
80327  
80328  
80329  
80330  
80331  
80332  
80333  
80334  
80335  
80336  
80337  
80338  
80339  
80340  
80341  
80342  
80343  
80344  
80345  
80346  
80347  
80348  
80349  
80350  
80351  
80352  
80353  
80354  
80355  
80356  
80357  
80358  
80359  
80360  
80361  
80362  
80363  
80364  
80365  
80366  
80367  
80368  
80369  
80370  
80371  
80372  
80373  
80374  
80375  
80376  
80377  
80378  
80379  
80380  
80381  
80382  
80383  
80384  
80385  
80386  
80387  
80388  
80389  
80390  
80391  
80392  
80393  
80394  
80395  
80396  
80397  
80398  
80399  
80400  
80401  
80402  
80403  
80404  
80405  
80406  
80407  
80408  
80409  
80410  
80411  
80412  
80413  
80414  
80415  
80416  
80417  
80418  
80419  
80420  
80421  
80422  
80423  
80424  
80425  
80426  
80427  
80428  
80429  
80430  
80431  
80432  
80433  
80434  
80435  
80436  
80437  
80438  
80439  
80440  
80441  
80442  
80443  
80444  
80445  
80446  
80447  
80448  
80449  
80450  
80451  
80452  
80453  
80454  
80455  
80456  
80457  
80458  
80459  
80460  
80461  
80462  
80463  
80464  
80465  
80466  
80467  
80468  
80469  
80470  
80471  
80472  
80473  
80474  
80475  
80476  
80477  
80478  
80479  
80480  
80481  
80482  
80483  
80484  
80485  
80486  
80487  
80488  
80489  
80490  
80491  
80492  
80493  
80494  
80495  
80496  
80497  
80498  
80499  
80500  
80501  
80502  
80503  
80504  
80505  
80506  
80507  
80508  
80509  
80510  
80511  
80512  
80513  
80514  
80515  
80516  
80517  
80518  
80519  
80520  
80521  
80522  
80523  
80524  
80525  
80526  
80527  
80528  
80529  
80530  
80531  
80532  
80533  
80534  
80535  
80536  
80537  
80538  
80539  
80540  
80541  
80542  
80543  
80544  
80545  
80546  
80547  
80548  
80549  
80550  
80551  
80552  
80553  
80554  
80555  
80556  
80557  
80558  
80559  
80560  
80561  
80562  
80563  
80564  
80565  
80566  
80567  
80568  
80569  
80570  
80571  
80572  
80573  
80574  
80575  
80576  
80577  
80578  
80579  
80580  
80581  
80582  
80583  
80584  
80585  
80586  
80587  
80588  
80589  
80590  
80591  
80592  
80593  
80594  
80595  
80596  
80597  
80598  
80599  
80600  
80601  
80602  
80603  
80604  
80605  
80606  
80607  
80608  
80609  
80610  
80611  
80612  
80613  
80614  
80615  
80616  
80617  
80618  
80619  
80620  
80621  
80622  
80623  
80624  
80625  
80626  
80627  
80628  
80629  
80630  
80631  
80632  
80633  
80634  
80635  
80636  
80637  
80638  
80639  
80640  
80641  
80642  
80643  
80644  
80645  
80646  
80647  
80648  
80649  
80650  
80651  
80652  
80653  
80654  
80655  
80656  
80657  
80658  
80659  
80660  
80661  
80662  
80663  
80664  
80665  
80666  
80667  
80668  
80669  
80670  
80671  
80672  
80673  
80674  
80675  
80676  
80677  
80678  
80679  
80680  
80681  
80682  
80683  
80684  
80685  
80686  
80687  
80688  
80689  
80690  
80691  
80692  
80693  
80694  
80695  
80696  
80697  
80698  
80699  
80700  
80701  
80702  
80703  
80704  
80705  
80706  
80707  
80708  
80709  
80710  
80711  
80712  
80713  
80714  
80715  
80716  
80717  
80718  
80719  
80720  
80721  
80722  
80723  
80724  
80725  
80726  
80727  
80728  
80729  
80730  
80731  
80732  
80733  
80734  
80735  
80736  
80737  
80738  
80739  
80740  
80741  
80742  
80743  
80744  
80745  
80746  
80747  
80748  
80749  
80750  
80751  
80752  
80753  
80754  
80755  
80756  
80757  
80758  
80759  
80760  
80761  
80762  
80763  
80764  
80765  
80766  
80767  
80768  
80769  
80770  
80771  
80772  
80773  
80774  
80775  
80776  
80777  
80778  
80779  
80780  
80781  
80782  
80783  
80784  
80785  
80786  
80787  
80788  
80789  
80790  
80791  
80792  
80793  
80794  
80795  
80796  
80797  
80798  
80799  
80800  
80801  
80802  
80803  
80804  
80805  
80806  
80807  
80808  
80809  
80810  
80811  
80812  
80813  
80814  
80815  
80816  
80817  
80818  
80819  
80820  
80821  
80822  
80823  
80824  
80825  
80826  
80827  
80828  
80829  
80830  
80831  
80832  
80833  
80834  
80835  
80836  
80837  
80838  
80839  
80840  
80841  
80842  
80843  
80844  
80845  
80846  
80847  
80848  
80849  
80850  
80851  
80852  
80853  
80854  
80855  
80856  
80857  
80858  
80859  
80860  
80861  
80862  
80863  
80864  
80865  
80866  
80867  
80868  
80869  
80870  
80871  
80872  
80873  
80874  
80875  
80876  
80877  
80878  
80879  
80880  
80881  
80882  
80883  
80884  
80885  
80886  
80887  
80888  
80889  
80890  
80891  
80892  
80893  
80894  
80895  
80896  
80897  
80898  
80899  
80900  
80901  
80902  
80903  
80904  
80905  
80906  
80907  
80908  
80909  
80910  
80911  
80912  
80913  
80914  
80915  
80916  
80917  
80918  
80919  
80920  
80921  
80922  
80923  
80924  
80925  
80926  
80927  
80928  
80929  
80930  
80931  
80932  
80933  
80934  
80935  
80936  
80937  
80938  
80939  
80940  
80941  
80942  
80943  
80944  
80945  
80946  
80947  
80948  
80949  
80950  
80951  
80952  
80953  
80954  
80955  
80956  
80957  
80958  
80959  
80960  
80961  
80962  
80963  
80964  
80965  
80966  
80967  
80968  
80969  
80970  
80971  
80972  
80973  
80974  
80975  
80976  
80977  
80978  
80979  
80980  
80981  
80982  
80983  
80984  
80985  
80986  
80987  
80988  
80989  
80990  
80991  
80992  
80993  
80994  
80995  
80996  
80997  
80998  
80999  
80100  
80101  
80102  
80103  
80104  
80105  
80106  
80107  
80108  
80109  
80110  
80111  
80112  
80113  
80114  
80115  
80116  
80117  
80118  
80119  
80120  
80121  
80122  
80123  
80124  
80125  
80126  
80127